Area of Research : IoT

An automated irrigation system using IoT

The Internet of Things (IoT) is playing vital role in present world specially, the Internet of Things (IoT) is transforming the agriculture industry and enabling farmers to contend with the enormous challenges they face. The industry must overcome increasing water shortages, limited availability of lands, difficult to manage costs, while meeting the increasing amount of yielding.

New innovative IoT applications are addressing these issues and increasing the quality, quantity, sustainability and cost effectiveness of agricultural production. Today the IoT technology can remotely use sensors that can detect soil moisture and fertility of the soil and then remotely manage and control them with required bio-pesticides and pest attack. Sensors provide the first purpose built IoT platform designed to meet the unique needs of today's connected world.

In India, agricultural villages play an essential role in developing the country. Basically, agriculture depends on the monsoons which are not sure. To overcome this problem, the irrigation system is employed in the field of agriculture. Based on the soil type, the water will be provided to the agricultural field. There are two things to be concerned, the moisture content of the soil as well as the fertility of the soil.

The Smart Irrigation System is an IoT based device which is capable of automating the irrigation process by analysing the moisture of soil and the amount of nutrients present in the soil and to create a database that contains information about the different crop types and the additional nutrients that can be added in the form of bio fertilizers, expected pest attack and the bio-pesticides needed for that crop.

Hence, the farmer comes to know about the time interval between Watering and amount of water to be used (for watering) Addition of nutrients (bio-fertilizers) and Addition of bio-pesticides can also be monitored. The benefits of the bio-pesticides and the bio-fertilizers used in the soil are informed to the farmer and expected yield can also be calculated.